WHAT IS CLAIMED IS:

1. A wiping unit cleaning brush for cleaning coating solution from the inside, open, end of a flexible, tubular, dip-coated substrate, comprising:

a cleaning brush of variable diameter having an oblong profile when viewed along its axis of rotation; and

one or more cleaning portions and one or more recessed portions, said one or more cleaning portions having a diameter at least equal to or greater than the diameter of the diameter of a circle having the same circumference as the circumference of the flexible, tubular substrate so that the cleaning portions engage the inner surface of an end of the substrate to fit over the cleaning brush.

2. A wiping unit cleaning brush according to Claim 1, wherein said cleaning brush of variable diameter have a central supporting disk and a plurality of flexible extensions that extend in a radial direction away from the outer edge of the central supporting disk, each flexible extension having one or more cleaning portions such that the effective diameter of the cleaning brush in the vicinity of a flexible extension is greater than the diameter of the diameter of a circle having the same circumference as the circumference of the flexible tubular substrate.

3. The wiping unit cleaning brush of Claim 2, wherein the flexible extensions are distributed equally over the edge of the central disk.

4. The wiping unit cleaning brush of Claim 3, wherein angularly adjacent flexible extensions overlap one another.

5. A wiping unit cleaning brush according to Claim 1, wherein said cleaning brush of variable diameter has a central supporting disk and two or more arcuate segments attached to the central supporting disk for movement selectively toward or away from said central supporting disk, wherein the effective diameter of the cleaning brush is selectively greater than the diameter of the diameter of a circle having the same circumference as the circumference of the flexible tubular substrate.

6. The wiping unit cleaning brush of Claim 5, wherein at least two arcuate segments are attached at diametrical opposite locations on the edge of the central supporting disk.

7. A wiping unit cleaning brush according to Claim 1, wherein said cleaning brush of variable diameter is split into two or more cleaning sectors, telescoping rods connected at one end to a sector and at the other end to a central hub for extending in a radial direction one or more of the cleaning sectors from a retracted position to an extended position such that the effective diameter of the cleaning brush is selectively greater than the diameter of the diameter of a circle having the same circumference as the circumference of the flexible tubular substrate.

8. A method for cleaning coating solution from the inside, open, end of a flexible, tubular substrate, comprising the steps of:

holding the closed end of the flexible, tubular substrate stationary;

bringing a substantially disk-shaped cleaning brush of variable diameter, having an oblong profile when viewed axially, into axial alignment proximate to the open end of the flexible, tubular substrate;

engaging the open end of the flexible, tubular substrate with the cleaning brush to deform the end of the flexible, tubular substrate to fit over the cleaning brush;

spinning the cleaning brush so that the cleaning portions engage continuously with the inner surface of the end of the flexible, tubular substrate; and

withdrawing the cleaning brush from the inside, open end of the flexible, tubular substrate.

9. An apparatus for cleaning coating solution from an inside, open, end of a flexible, tubular substrate, comprising:

a cleaning brush of variable diameter having an oblong profile when viewed along its axis of rotation and having one or more tapered portions, one or more cleaning portions, and one or more recessed portions, said cleaning portions having a diameter sufficiently large enough so that the cleaning brush engages with the inner surface of the open end of the substrate for cleaning of said substrate, and said tapered portions and recessed portions allowing the open end of the substrate to be fitted over the cleaning brush;

a drive mechanism for inserting the cleaning brush into the inside, open, open end of the flexible, tubular substrate, and spinning the cleaning brush so that the cleaning portions engage continuously with the inner surface of the open end of the substrate; and

a chuck for holding the other end of the substrate.

10. An apparatus for cleaning coating solution from the inside, open, end of a flexible, tubular substrate, comprising:

a cleaning brush of variable diameter, including a central supporting disk and a plurality of extensions each supporting one or more cleaning portions, having a diameter sufficiently large to let the cleaning brush engage with the inner surface of the open end of the substrate for cleaning of said substrate, and one or more recessed portions allowing the open end of the substrate to be fitted over the cleaning brush;

a drive mechanism for inserting the cleaning brush into the inside, open, end of the flexible, tubular substrate, and spinning the cleaning brush so that the cleaning portions engage continuously with the inner surface of the open end of the substrate; and

a chuck for holding the other end of the substrate.

11. The apparatus of Claim 10, wherein the cleaning portions comprise polyethylene.

12. The apparatus of Claim 10, wherein the cleaning portions comprise cloth.

13. The apparatus of Claim 10, wherein the cleaning portions comprise clean room wiping paper.